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Scientific writing

IPP Seminar 2

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Scientific writing

- English for Scientific Purposes
- Avoid writing: a good idea?
- Why insist on good writing?
- Avoid at all costs
- Good habits in writing
- Terminology and tools
- Connecting words

English for scientific purposes

Language for Specific Purposes

English
French
Spanish
Chinese
etc.

Law
Finance
IT
Science
etc.

English for scientific purposes

Specialised English for Science, or scientific English.

- **specific terms**
- **specific expressions**
- **the scientific style**

Avoid writing: a good idea?

- "English is not my thing"
- "I do not have time to write properly"
- "I am too busy with my research"
- "Writing is secondary"

→ What are the options?

Avoid writing: a good idea?

- Scientific translators
- Proofreaders or Reviewers

Scientific writing: translation

1. **Avoid Google Translate**
2. **With moderation, prefer DEEPL**

https://www.deepl.com/translator

3. **Use translation programs as an aid**

E.g. Déjà Vu, Trados, Systran, etc.

→ are not 100% accurate and efficient

→ they always require human intervention

Why insist on good writing?

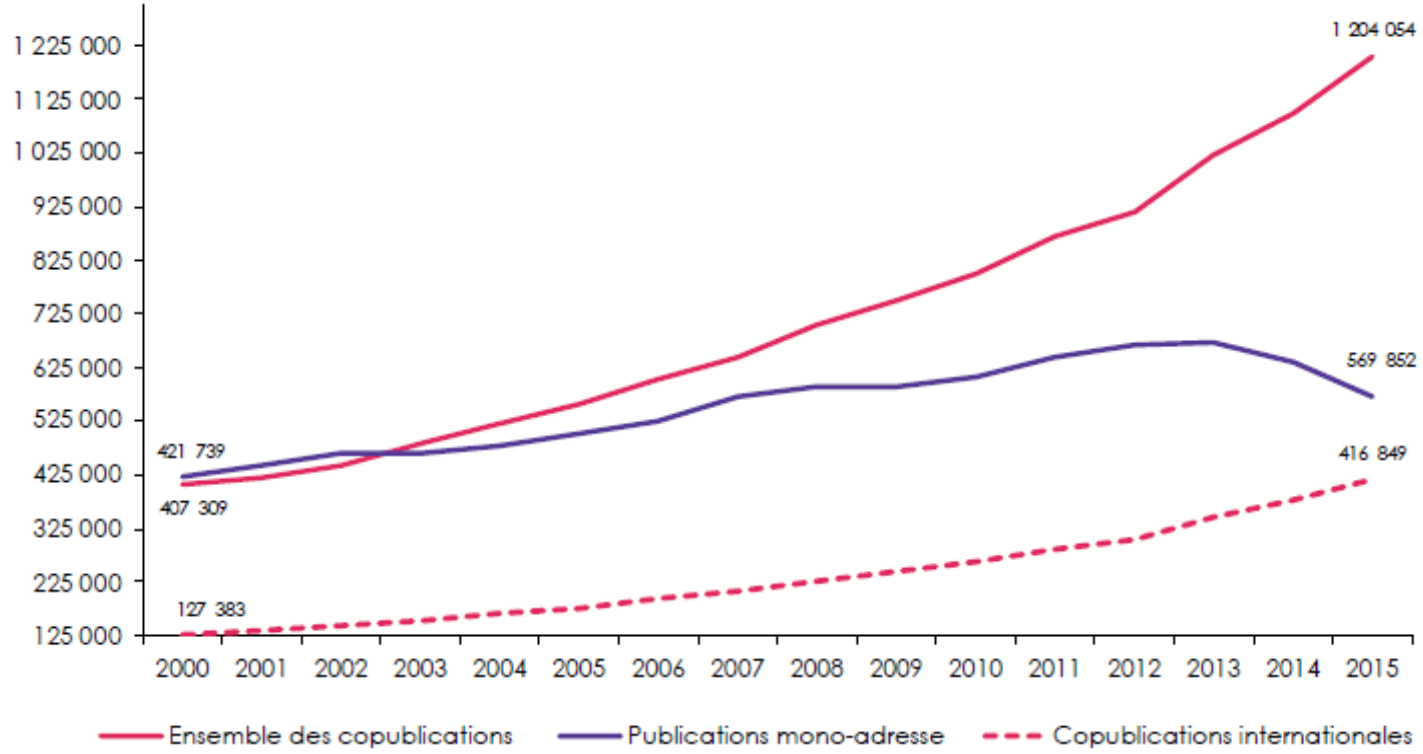
Individual perspective:

in English

- Publish or perish!
- High quality of expression → published
- Quality = credibility
- Quality attracts potential investors
- Quality cannot damage your career

Why insist on good writing?

Graphique 6. Croissance des co-publications nationales et internationales, 2000-15



www.hceres.fr/Rapport-PSF-Graphique-6

Source : Base OST, Web of Science, calculs OST

Why insist on good writing?

Group perspective:

- Publish in English or perish
- Quality builds the reputation of your lab/team/research work
- Increasing number of international collaborations
- France represents 3.2% of scientific publications worldwide (HCERES 2018)

Avoid at all costs

1. Errors → revision is important
2. Spelling mistakes
3. Fabrication of data and information
4. Falsification of data and results
5. Plagiarism

Avoid at all costs

About Plagiarism

- It is a serious academic crime and is severely punished.
- Punishment does not consider whether you plagiarised intentionally or unintentionally.
- Bad reputation, reduced funding, loss of job

Avoid at all costs

Avoid at all costs: conclusions

- There is plenty of room for new research, therefore there is no need for cheating.
- Always acknowledge other authors' work (name, year, location).
- Use quotations sparingly.
- Remember: YOU are the author!

Good habits in writing

To start with, read your doctorate charter and guidelines.

- **different for theses, papers, letters, presentations, etc.**
- **different depending on the country**

Good habits in writing

Put your research question in writing.

- **It forces the researcher to really state what they are looking for.**
- **You will come to terms with what you can get out of your study.**
- **A formal research question must be specific and answerable.**

Good habits in writing

- One good strategy, particularly for your state of the art:
  - Read the source text
  - Put it aside
  - Summarise the ideas in your own words without looking at the source text (paraphrasing)
  - Check the accuracy of your text

Good habits in writing

- Keep your research question in mind.
- You will write in your own words.
- Pride in the creation of your ideas, you are the author of a unique text.

Good habits in writing

In application,

- **you are not paraphrasing 100% of the text**
- **you are using the ideas in your own context**
- **you take the information you need**

Good habits in writing

In application,

- look for synonyms (verified)
- use a dictionary to check the spelling
- rearrange sentences, put in a different order
- when you are referring to an existing idea, make sure to keep the same meaning

Good habits in writing

Certain sentences, particularly definitions, cannot really be modified.

- **The energy of each photon is inversely proportional to the wavelength of the associated electromagnetic wave.**
- **The amount of energy is inversely proportional to the wavelength of the photon.**
- **There is an inverse relationship between the energy of a photon and the wavelength of the light.**

Terminology

What is a term?

General English	Specific English
Word	Term

The International Organisation for Standardization (ISO 1087) defines a term as "**the name or designation of a concept in a particular subject field**."

Terminology = the set of terms in a field

Terminology

- Know and verify your terms in English, do not invent them! (context is important)
- In specialised fields, particularly in Science, there is a term for each concept.

FRENCH	ENGLISH
pomme	apple
programme ? plan ? cursus ? logiciel ?	program

Terminology

- Know and verify your terms in English, do not invent them! (context is important)
- In specialised fields, particularly in Science, there is a term for each concept.

FRENCH	ENGLISH
pomme de terre	~~apple of the earth~~ potato
intoxication alimentaire	~~intoxication~~ food poisoning

Terminology

Some online tools:

- http://www.wordreference.com/

- https://www.linguee.com/

→ Handle with care (least specialised)

Terminology databases

- **InterActive Terminology for Europe**

http://iate.europa.eu

- **Le GDT**

http://www.granddictionnaire.com/

- **Termium**

http://www.btb.termiumplus.gc.ca

Scientific writing

1. **Accuracy**
   - ➢ no errors in your ideas
2. **Clarity**
   - ➢ no ambiguity
   - ➢ limit complex sentences
   - ➢ avoid idiomatic phrases
3. **Uniformity**
   - ➢ emphasises science over the author

Scientific writing

Which of the following sentences is clearer to you?

- **In Figure 2, the *x* and *y* axes respectively represent the experimental shift and the calculated shift of the isomer.**
- **In Figure 2, the experimental shift of the isomer is plotted as a function of the calculated shift of the isomer.**

Connecting words

Enhance your text with connecting words or linking words!

- **Linking words are used to show relationships between ideas.**
- **They are essential in avoiding ambiguity.**

E.g. They lost the match. They were happy.

→ **They lost the match, they were happy anyway.**

→ **They lost the match but they were happy.**

Connecting words: in text

Similarities	likewise, in the same way, similarly, not only…but also, correspondingly
Cause and effect	consequently, as a result, thus, hence, therefore, for this reason
Comparison, contrast	however, alternatively, instead, on the other hand
Limitations	despite, while, even so, although, nevertheless

Transition words: between sections

- Give a flow to your paper
- Relate the sections of your text
- Organise your train of thought

  → effective paper

- Transitions have 2 parts:
  1. review of previous information by author
  2. introduce new information to reader

Transition words: between sections

Example of transition between Theory and Experimental:

As stated in the previous section, the bing usually behaves as […]. In the present section, we attempt to test the bang on the bing using a bong.

Example of transition between Experimental and Results:

A bang was carried out using a bong, as described in Section 4. We now present the results […].

Scientific writing

To practise,

***Minimum Competence in Scientific English* (MCSE), University of Grenoble.**

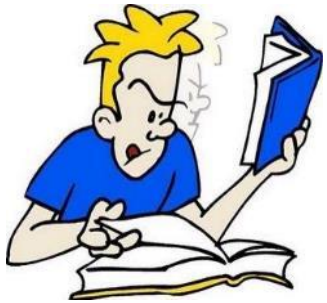
- **a book for reading, listening, writing scientific English**
- **online exercises**

Scientific writing

Write

Revise

Rewrite



Revise the accuracy

Sleep on it

Have someone read it

Revise again

Useful references

- **Blattes, S., Jans, V. & Upjohn, J. (2013) Minimum Competence in Scientific English*. Collection Blanche.* Grenoble.**
- **OST (2018) La position scientifique de la France dans le monde 2000-2015. *Hcéres*. Paris.**
- **Repišti, S (2015) Some common mistakes of data analysis, their interpretation and presentation in biomedical sciences*. VII 2015, Broj 12.* pp 37-46*.***